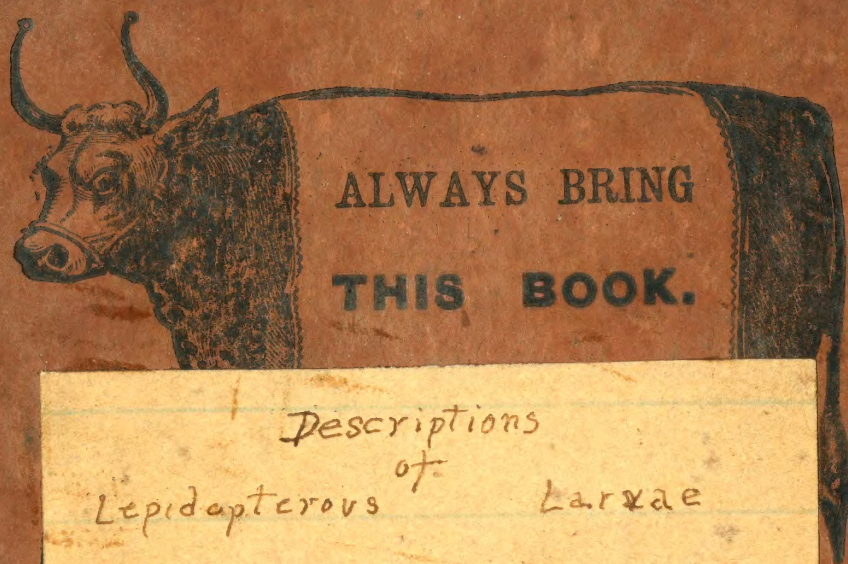


ALL BILLS SETTLED MONTHLY.



Descriptions  
of  
Lepidopterous Larvae

(continued)

BLUE BOOK

197 - 212.

# PROVISIONS,

CONSTANTLY ON HAND

Beef, Pork, Mutton, Lamb, Poultry,  
TRIPE, SAUSAGES, HAM,  
LARD, PIGS' FEET, LIVER, &c.

Also, Fresh Fruit and Vegetables

Of all kinds in their season, at lowest cash prices.

Goods delivered promptly, free of expense.



197

Egg laid by ♀ *Edema* sp. PK. e-light.

July 3 '90 Spherical, very slightly flattened  
on top & bottom - minutely punctured  
Color fine pale green. Diameter .7 mm

Hatched July 19 Hd subovate, black  
& shiny, a few hairs. W. 4<sup>(less)</sup> mm

Body somewhat contracted in seg-  
mental sutures, light yellow with  
a few hairs, & a small sd black  
spot on 12. Anal feet elevated. 2.2"

Molt 2<sup>nd</sup> July 29 Hd large, subconoid, flat-  
tened in front, shiny pale yellow  
mouth whitish, eyes & face brown W. 7<sup>(+)</sup>

Body yellow, enlarged a little at j. 12  
with d, & s-d. narrow interrupted black  
line and sd black spot on j. 13

Molt 3<sup>rd</sup> July 31 Hd as before W 1.3 mm  
as before d & sd line narrow, black.  
Faintly a yellow band in sd space.

Joint 12 enlarged dorsally, dark yellow

Molt 4<sup>th</sup> July 14 Hd w 1.7 mm Same



moth Aug 25- hd higher than wide, narrowing to vertex, flattened in front & depressed at antenna of dpl above like *Datana*. Smooth, very shiny, light orange, smooth joints yellow, eyes black. W 2.3 mm joint II has a dorsal orange bump with a few minute tubercles, anal feet elevated. Body yellow green, a s-d & stig yellow band 2-11, edged on both sides with black, interruptedly before stig. A dorsal & lateral black line. J 13 bluish. Black line present but broken into spots. Traces of s-r & ventral lines in spots. anal plate yellow tipped brown; no c shield (dead)

\*The 2 large eggs in slight amt. of gummy ants (which represented growth & development) and rub her body over the mass, likely all the hair covering the eggs. Copied  
(BB 199 cont) ✓

3<sup>rd</sup> pupa cylindrical, the abd seg tapering the eyes & wing cases & antennae cases especially prominent. A birth deposit behind the ap. Semi-transparent shiny <sup>yellowish</sup> white, the black covered with long thin silken white hairs. Cummulation flat, terminating in several brown hooks well fastened in the sides of cocoon.

L 12 mm W 5 mm (hd from cocoon 2.8)

gimms lat. gimms Aug 27 gimms Aug 29 of structure of *Leucostigma* but not white, the color of the down which is especially abundant on the ventral side is light brown a small black spot on 2nd abd. seg. rudimentary wings dark & mucous.

<sup>Aug 30</sup> Eyes black. Egg nearly spherical, the top a little flattened. A large central brownish spot with a pale dot at apex of egg, surrounded by a concentric colorous rings. Diam 1.6 mm. covered with the brown hairs of the moth which seem to be gummed on as are the eggs to each other & the cocoon contrasts with both covered eggs of *Leucostigma* and the naked ones of *noxa*.



Copied <sup>hid. by calc (3.3 ratio. 7)</sup> 1, 1.6, 2.3, 3.3  
Common larva  
198 book

Eggs laid by tied mated of *Platysamia*  
*promethia* on cactus July 6, 1890  
Elliptical flattened above & below  
or a little depressed. Shiny pale  
creamy white, not punctured and  
not smeared with any brown fluid  
as is *Cecropia*. L. 1.9 mm W. 1.5 H. 1.3  
Hatched July 19 hd black, labris &  
palpi white & a longitudinal line  
passing just above the eyes. W 1 mm  
Body yellow, a double transverse  
black band around 1st part of  
each seg. heavier at extremities. Three  
rows of tubercles tipped by spines, on j 12  
one dorsal & 2 rows, yellow in center of  
body, black at ends, all spine black  
W 2.6 as before. Hd 1.7 mm. The  
tubercles are black on 2, 3 & 12 incl  
drag these on anal plate, the rest  
yellow but the sharp fine radiate  
spines are brownish or pale. The

corn & with in curled leaf fastened to  
tang & a bunch of silk spun along  
the leaf stalk.

ground color fades to white as the stage  
advances. Inst B, 31 Hd pale yellow  
tinged with deeper yellow, spl & mouth  
parts white, 2 longitudinal black bands  
anterior less interrupted one above mouth  
& a vertical broad one at sides post  
the other above a plate, consisting of 2 spots  
Body white, tubercles in 3 rows black  
4th row above base of legs on 2-4 with  
radiate spine at top black as also the  
2 anal plate but row 1 on 3 & 4 and  
the dorsal on 12 larger yellow with  
a black ring around the base. Legs  
all yellow, a few black dorsal spots  
at extremities. W. hd. 2.3 (2.5 - 2+)  
Anal feet with black angulated line  
inst B, 4 Hd yellow with traces of the  
brown dorsal in 4 black spots. Labris  
white broadened above with black, antennae  
white eyes black. W 3.3 mm Body greenish  
white, hants as before, the dorsal one  
small. The dorsal on 3 & 4 large, brown  
anal red with a black ring at base. The  
dorsal one on 12 yellow with black ring  
Feet & anal <sup>yellow</sup> ~~black~~ the abd. each  
with a black spot & anal feet with  
a black broken at the lower extremity  
corner. At next body whitish green a pale  
blue ring around each tubercle with trace  
of a cross line through row 1 Corn Aug 13



Hds by calc (2.8 ratio 7)

.47 .67 .96 1.37 1.96 2.8 4 (g only)

We have — .7 1.0 1.5 2.1 2.8 3.5!

copied  
3/9/91

199 = *Argyria defuncta*

Two heads of eggs on *Sassafras* July 6, 1893 Hd, pale yellowish, jaws black W. 1 mm. Warts as in mature was in BB196, small, concolorous, 2 large ones on joint 2 bear three pencils of plumbed black hairs, and a similar pencil mixed with brown hairs on joint 12. Body pale whitish a yellowish band on joint 2 seg. and a stripe broad whole length wider on 5, 6 & 7. Three dorsal deep yellow tufts of joints 5, 6 & 7. Warts bear three whitish hairs 2. 10 mm. Retractable warts on 10 & 11 whitish with a blackish shade around them. Molt July 4 Hd pale yellow, eyes black, jaws brown, a small brown shade above labium: W. 1.5 mm. Body as before but streaked with bluish in dorsal band and laterally. Tufts 4 on joints 5, 6, 7, 8 dark yellow. Hair

Hds by calc (2.8 ratio 75)

CPD

.52 .71 .956 1.27 1.58 2.1 2.8 3.7 (g only)

Have — .7 1.0 — 1.5 2.1 2.8 3.5

long, whitish. Cervical spot pale yellow. Retractable warts whitish 2. 12 mm. Molt July 5 12 As before W. 2.7 mm. Between the yellow dorsal tufts are a series of velvety black spots, concealed unless the insect is disturbed. The dorsum is gray, broadly so anteriorly but <sup>parts</sup> replaced by a <sup>yellow</sup> band on joints 9-13. The lateral region is gray the warts whitish and partly bordered by yellow, and a narrow <sup>strip</sup> band. [1894] July 13 Hd pale whitish, eyes black mouth brown. W. 7 mm. Body has warts small except 2 large ones on joint 2 bearing 2 or 3 short plumbed black hairs, <sup>also dorsal</sup> all the rest bear a few long white ones. Body pale whitish, retractile warts whitish. Traces on two anterior dorsal tufts of 5, 6. Molt July 19, Hd brown. Another Hd 2.8 2.5+ 3.1 Hd pale yellow, shiny. Labium & antennae white. Body pale yellow a pale, almost colorless dorsal band



\* Horn divergent hooks. In wing cases, decrease small. Color semi-transparent shiny very pale yellowish with a few marks. Over the dorsum considerable fine scale long (2mm) whitish hairs. 2 1/2 mm greatest diam 8mm [secondarily] absent on 2 where it is replaced by the

pale yellow c-spot containing 2 darker yellow warts, narrow & geminate on 3, 4 widening & enclosing the dorsal tuft on 5-8, narrower 9-12, enclosing the concolorous tubercles on 10 & 11, absent on 12. A narrow 2-d & faintly striped similarly colored line. These bands are in 2 rows or black, blue gray or dark brown more or less blackish and then a velvet black spot bet. dorsal tuft on joints 6, 7 & 8. Vents all yellow. Perist. on j. 2 long, plumbed, black, that on 12 of light brown hair with a few long black plumbed ones on its sides. Venter hair thin, long, white.

Molt Aug 5 - hd pale yellow minute, with white spots of bristles, antenna & ocelli. Eyes white, eye-jaw black. w 3.5 mm Body as before. The wart is c-spot and not so dark as before. The dorsal black spot is in triplicate on 3 & 4. Spiracles white in fine black border. Body of the bright yellow, dorsal tufts yellow pale & even hair yellowish. (Aphidius hd 3.5 mm) Corn Aug 10 of silk & hair double but then the 1st seen both in pupa Aug 12 of Robt, discolored through 2-4 abd seg, then a small, red 3. Body smaller, near end molt, last seg rounded, cream color, flat, rather broad at base, terminates in a small \*.

Cole 1.17 1.78 2.70 4.09 6.2 7.66  
 found — — 2.6 4.2 6.2 7.66  
 200  
 less 3

Little larva on butterwort plants to July 7. Hd. minutely pilose & sparsely, leaf green. Eyes whitish or black ground, mouth brown & black. W 2.6 mm Body enlarged dorsally on each seg especially on 3 & 4, three rows of tubercles bearing one or more spines. Row 1 2-d, on 12 only one tubercle dorsal 2 lateral absent. n.j. 3 substig absent on 13 and a minute one on joints 2, 3 & 4 above bases of legs Row 4 & 5 rose color, row 3 greenish hair black. Body translucent yellowish green a substig pale yellow band, just below spiracles. Posteriorly on each joint 5-11 is a similarly colored transverse line also on anal plate. The feet brown, shaded with black abd. green with a black line and yellowish shade above it outside Length 20 mm Molt July 8. Hd

... above ... with green ...



From shed head 4.2 (greater than 4, less than 4.5) Imago Coon July 25 Feb 16, 91

Calc. 1.7 1.78 2.70 4.05 6.2 7.86  
Caud. - 1.2 1.2 1.2 1.2 1.2 1.2

201

as before, eyes black on black patch yellowish before it. Mouth brown, jaw black. W. 4 mm. Body as before. <sup>new color</sup> ① ~~off~~ pale yellow ③ ~~pale~~ <sup>pale</sup> ~~pale~~. Black stripe above feet larger & few long hair. Stripe above base of anal feet black, yellow above it. Thoracic feet black.

4 now wants a s-r sp on 2-6, small on 5 & 6. A number of short club shaped white hair on dorsum.

Molt July 16. Hd dark green, shining granulated & creased, eyes black on dark brown ground, jaws brown, labrum brown. Mouth parts pale; bases of palps <sup>(Bristle 6, less 6.5)</sup> yellow green. Body as before, wants ① yellow ② bases brown, rest whitish, <sup>or all rose color</sup> very long blackish hairs. Anal plate dark brown, granulated, the lower border with yellow, thoracic feet dark brown outwardly, clasper of abd blackish. Feet have black hair. On dorsum a number of white hair <sup>(not clubbed)</sup> from ① ② ③ spiracles orange with paler border.

Little larvae on butter-milk. Molted July 7. Hd pale testaceous, mouth brown, eyes black, ~~on~~ <sup>on</sup> W. 4 mm. Body semitransparent greenish, front pair on abd. feet partly aborted. L. 5 mm. Some minute wants on body.

The others same but paler. Hd .6 mm. On July 12 one hd .9 as before food showing minute piliferous wants. Body

tapered. 2 found pair abd feet partly aborted. Other Hd 1.1 (or 1.2) very pale greenish, Hd <sup>but little paler</sup> shiny body semitrans. Same as others.

One July 17 Hd 1.1. all pale greenish yellow reddish on dorsum of 2-4, interrupted yellow s-d line, and abd. feet small than others. Other Hd pale green, eyes black, mouth whitish W. 1.5 mm. Body pale green, little reddish on dorsum 2-4 with s-d yellow line broken into 2 apst per seg. Skin golded in body sutures. Feet



nearly equally developed. L. 10 mm  
 One molt July 24 hd 1.5 As the other  
 the reddish color all disappears.

Other <sup>big</sup> molt July 26 Hd pale green eyes black  
 mouth deep white <sup>(2.5, 2.5 mm)</sup> W 2.1 mm Body  
 folded in seg. autumn like food cat.  
 anal feet horizontal (not abraded) a red  
 yellow stripe, 2 transverse plate broken  
 into two elongated spots per seg. Pale  
 greenish with darker green irregular  
 spots, distinguished by a glass.

molt July 31 Same. Hd 2.7 (2.5+, 3-)  
 spiracles red. Turned red and  
 made corn on back of leaf of little  
 bits of leaf and silk Aug 5, 1890  
 (no pupa)

202

Egg, laid by ♀ P. isabella July 10, 1890  
 Subconoidal, almost  $\frac{2}{3}$  sphere, base  
 flat, shiny pearly white. Diam. 9 mm

A 203 On choice cherry; *Jeffersonia* <sup>(e. light)</sup>  
 N.Y., June 16 1895. Hd 1.1  $\frac{1}{2}$  <sup>2.5, 2.5 mm</sup> <sup>2.5, 2.5 mm</sup> <sup>2.5, 2.5 mm</sup>  
 Body dark brown & greenish on side  
 on 1st brown patches base thin feet on  
 7 and 10 lat; 5-d line of elements  
 broken on 7, 11, oblique on 11, horn  
 distinct on 12. Cdh 1 anal pl.  
 black. four with 2 very short  
 unextended horns  
 main strong  
 polyd.  
 line  
 A horn June 9 Hd 1.6  $\pm$   
 Horns blunt point As before at foot

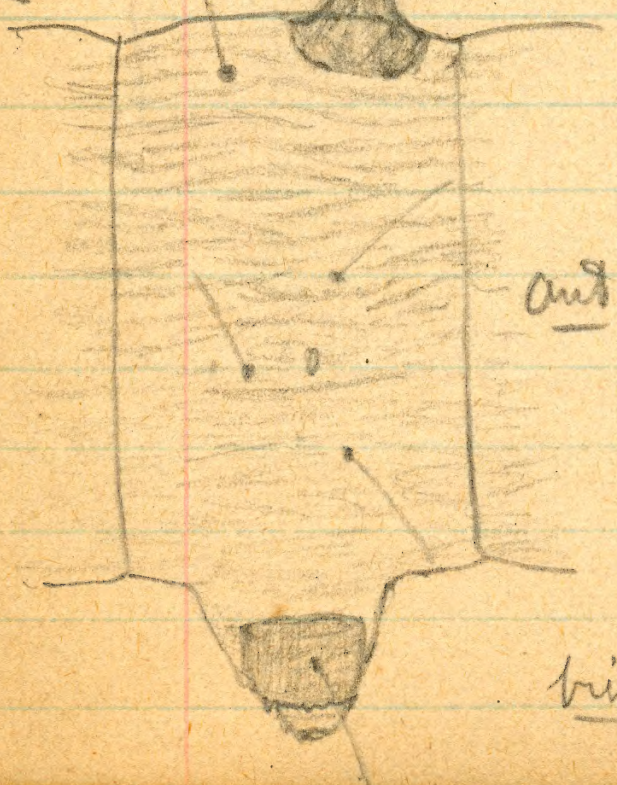
203



mature larva  
*Cecropia gettintha*

Found on beech  
 Keene Valley, N.Y.  
 Drawn July 10  
 1898 while  
 preparing to  
 molt.

This larva is  
*biundata* or *gettintha*



ant.



Oak  
with Hazel  
Buckeye  
Chestnut  
Birch

Cepheid  
12/3/90

203 (See 40) <sup>H. guttata</sup>

Retenue on birch July 13 '90. Head higher than wide, <sup>antennae</sup> conical. Pale greenish, a  
line from vertex on the  
sides, dark crimson  
bordered broadly  
white. Labrum & palpi  
yellowish brown. W. 2.1 mm.  
at 78 when at rest. anal pair elevated  
a yellow line containing  
apparently two transverse  
white dorsal  
on 5<sup>th</sup> appearing  
supplemented on  
each side  
yellow line, which  
anal line on 8 and anal  
only 2 small yellow  
d-d line fading  
on 12 & 13,  
smaller with a few dark  
dots on thorax. anal yellow with a  
brown line on outer  
margin.

Call .6 .9 1.4 2.2 3.3 r=.66  
found - - 1.54 2.1 3.3

ant.

interrupted obliquely on 11, and  
white outwardly on anal plate  
Faint trace of yellow stigmatal  
line many small black dots  
laterally on dorsum of ant.  
segs. Feet yellowish, anal pair  
white with a narrow longitudinal  
black line & tipped with yellow  
(Another same age on Chestnut July 15  
Same, but supplementary dorsal line  
is more extensive. It leaves dorsal  
line on 5, small & it joins it on 8,  
immediately leaves it again and  
joins sub-dorsal line on 11, just past  
the interruption. D. line extends  
whole length except on joints 13  
Molt July 16. Hd 3.3 mm vertical line  
germinate, somewhat pulverulent  
on white ground. Green, labrum  
whitish, mouth purple red, eyes black  
cervical spot narrowly yellow in front  
smooth. Body as before, dorsal



Another on Birch July 27, Hd 3.3  
 # and on head purplish.

larvae cases prominent. Arista 2 parallel  
 spines barbed at the end with two little spines  
 pointing the lower one inward the other outward  
 (and the spine twisted a little near the end)  
 A curved row of 6 antecubital elevations at first  
 edge of thorax 2 19 mm W 3 mm color shiny  
 iridescent red, darker on cases.  
 white, s.d. yellow. Many small  
 dark purple brown round (small  
 stig. line) most July 16  
 and dorsal marks  
 more distinct than in  
 . Their course can  
 be traced however  
 than 3, less than 3.5 mm  
 advances white shade upper  
 closed by intersegmental  
 lines and below the  
 joint 13, & the s.d. line  
 . Lateral region  
 purple, dorsal region  
 with a general faint  
 . Same but post.  
 pink. A pink spot in  
 bands of head narrow  
 by white from broad  
 pink edged white.  
 brown spot on j4 in  
 sub-ventral space. Extended ground July 27  
 pupa cylindrical of usual shape, red  
 punctured, cases crossed with

Hd by scale 4 .7 1.1 1.7 2.7  
 we have 4 1 1.3 j4 1.7 2.7  
 9/7/90 20 common larva  
 C. concinna

On apple July 13, 1890, Hd black shiny  
 W. 4 mm Body shiny brownish olive  
 with cervical spot & 4 rows of small  
 elevated spots black, lower rows minute  
 Thoracic feet black, anal feet elevated  
 most July 14 Hd shiny black, a small  
 black tubercle at apex of each lobe  
 W. 1 mm (full) apex short hairs. Body  
 brownish olive, with rows of cervical  
 shiny black, piliferous tubercles those  
 on 5 & 12 dorsal longest 5 mm ① vent  
 d. line, ② s.d. ③ stig ④ sub. s. ⑤ s. v.  
 C spot & anal plates black. Anal feet up  
 most 3/20 Hd as before, a number  
 black hair W. 1.3 mm. Body yellow  
 brown, a s.d. & lateral line whitish  
 edged with red brown, distinct only  
 centrally. Tubercles ① on 4-6, long &  
 large others larger than before, each  
 with a hair. C. spot & anal plates  
 black tubercles, thoracic feet black



Egg shell of another lot, spherical, base flat smooth. diam 7 mm. laid in flat mass. (Hd 4.0) [These have heads (1 + 1.5 -) 1.1] [molt July 2] Hd 1.7  
 Body as above, dull greenish, enlarged dorsally and brown yellowish. A s-d. super-sty & interrupted sub-sty absent on 5 & 12 and broken on 2-4 & 13 white edged above & below with dull brownish dorsal line. [molt Aug 1] Hd brownish and smooth dark eyes & antennae black. Leg hair 112.7 mm. Body enlarged at 5 & 12, most at 5, hind reachish, tergites 0 very long & spiny on 3-7 & 12. The lateral ones not very long, all shining black. S-d black, s-d super-sty, white edged black lines between each a much less faint black line. Body greenish yellow. (C-spot) black. Black fringed anal plate. Sperm black. Sperm blackish in the black lines. ~~all absent on 5 & 12~~ Anal feet all filled in but the black line s-d to super-sty on 6-11 & partly on 12-13. Hum. brownish. Crown Aug 3. Pupa found on leaves or on ground. Pupa light reddish brown, cylindrical, abd seg. slightly tapering, black rounded, denticulate 2. separate about, each with a number of small obtuse points or pointed spines a slight heart-like elevation in center of each half of thorax, row of circular gran. on first abd. & thorax. Also punctate gran. on edges of abd. cases smooth. L. W. 4. [molt Sept 3] & Redmanian arcina.

On apple July 13, 1890 Spatula? Head whitish but thickly covered with mites. In front a number of light purple streaks but s-pl greenish edged by whitest, labium pinkish, palpi white. On vertex and down 2 lines front & side half way the lines are black, close together composed of subconfluent spots. On the sides they are pale brownish elongated. W. 3.4 mm. Body has a row of large red warts each side dorsal line 3-12 (i) smaller post. but large & 2 pair on 12th post pair largest and smooth their bases much elevated. Those on 3 are next largest. Cervical spot dark red, edged by white which edge extends on j 3, converging, & passes just outside the warts. A narrow purplish dorsal line broadly underlying & again contracting on post 8, 9, 10 enclosing a yellowish space.

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As d, anipustre & sub-stig. rows  
of vent, small & concolorous with  
body. All bear a few blackish  
hairs. Body yellowish green, apin-  
acles black with white center  
Feet normal

Specimen red for preparation July 16.  
Sat in hollow of ground & I put  
a board over it. No cover.

dead

appears to be '11' except patch on  
"8-10" instead of 8-11 or is it  
A. grisea (see my Eden desc.)?  
cf 446 which is grisea. 446 has  
patch 8-11.

It is prun which has patch 8-10  
and in the green form includes some  
greenish. (Feb 14 1897) See BB600

Copied  
7/23/90

206

Heterocampa arclum (see BB10, BB13) d  
July 13, 1890 d. somewhat larger than  
wide? no unusual shape. not distinct on  
bilobed. Green with a red brown  
line bordered behind with white on  
the front sides, narrowing at extremity 13  
Eyes black, mouth parts pale. W 3.1 mm  
Body slightly elevated dorsally at  
5 & 12 with 6 rows of <sup>small</sup> ~~small~~ tubercles  
1 per seg, 3 ant, 3 post alternating, trans-  
verse dorsal line on 5 & 12 larger area  
in white subdorsal line each side  
green c-spot, narrowing and 11 on 2, 3, 4  
passing obliquely downward on 5, 6, 7  
to spiracle on 7, then upward to  
d portion on 8, to spiracle again  
on 10, upward to first tubercle on  
12, thence diverging a little to anal  
feet. The dorsal space included is  
more or less (in this instance nearly  
completely) filled in with purple

the head to above bordered with green



In both the 206 & 207 the other yellow line was complete, one had rather all gone the other more quite well filled in.

brown dense smocking on a white ground except joint 2 & 13 which latter (13) is white, but leaving a white or partly green dorsal line from 6 to 11 of irregular width widening especially in the anterior bet. segs. Body leaf green much sprinkled with fine black spots. The minute piliferous tubercles are yellowish laterally, and a few blackish hair grow on head spiracles orange. Feet normal, the last pair elevated, claspers of abd. tipped with brown. (A yellow stig. line on joints 2-4) Length 30 mm. July 13 towards home for pupation and later made com. of ribs under sticks & found in tumbler.

Pupa July 22 Shiny mahogany brown with a little white at the head. thorax wingless, legs enlarged. (accumulated 52, about 11 minutes 2-3 mm. long) Aug 2, 1890 Curled now 1/2 in. long. 206

Others on film Hdd 1.7, 1.7, 2.8, 2.8 When stage desadv. this absent but it forms a fine geminate dark red of line. (Com. 4 cells, mottled 206 A (these mottled 206) (The rest = 206 A) Hdd as in 206, single brown line bordered with white behind W. 1.7 mm. (2-1.5+) Body green with tubercles small as in 206, there are 5-12 next d-line large & red the other yellowish, each bearing a hair. A narrow white dorsal line from 6-13 broad white s-d line edged narrowly with black, as in 206 but // is s-d position 6-10 (i.e. retracted to green dorsal line at 3, 4 and 12) A narrow yellow aty. line, many lateral small black spots. Anal feet whitest with a brown line. No purple shading. (Had film) Molt July 20 Same mouth pale, jaws black. W. 2.8 mm. (2.5+, 3-) A slight black line under s-pl above. The l-line as broad as s-d, white the latter edged above with yellow. The s-pl green above (black line) Next 3 dorsum shaded with white. Stig. line joint 2-4. as stage advances body especially dorsum above with a line narrowly wavy.

above bordered with



Imago Jan 27, '91 Cat. no. 5358

*Comolocha albolinealis* (Wm. L. Gahan)  
*abalienalis* (Wm. L. Gahan)

Copied  
2/5/91

Fast. cont. & rough skin July 13, 1890  
d. 1.5 mm. mouth brownish, eyes

Body contracted  
in the skin forming folds

small warts on  
apical spot. Warts small, as

one on leg  
approx. 13, purplish, each with a

small brown hair (Spiracles range  
from head to joint 13)

Body pale whitish, with honey yellow  
tinge, a white d. s. d., stig. & ant.

stig. line. A row of lateral large  
crimson spots on per. seg. except

on j. 13, those on 2, 3 & 4 centered  
with black, the other segments with

white. Spiracles white bordered by a  
fine black line. A few short black

hairs. Feet normal. C. spot blackish  
Wolt July 26 as before. Hd pale brown

with a large darker shading at the  
sides, labium & palpi white. Jaws black  
Body as before with greenish tinge, pink  
spots somewhat smaller. W. hd 3? mm  
W. ant. 5.4, max. 4.7  
Mentum concave, 4th seg  
lateral quad. space

epd  
7/26/90

208 (= 59)

Back of cat on highway apple July 26, 1890  
In web. Two headed as next stage

head 2 mm. Next 4d pale brown  
lower part of labium & bases of palpi

white, rest of palpi black; eyes &  
jaws dark brown. W. hd 2.5 mm

Body pale whitish with honey yellow  
tinge, a white d. s. d., stig. & ant.

stig. line. A row of lateral large  
crimson spots on per. seg. except

on j. 13, those on 2, 3 & 4 centered  
with black, the other segments with

white. Spiracles white bordered by a  
fine black line. A few short black

hairs. Feet normal. C. spot blackish  
Wolt July 26 as before. Hd pale brown

with a large darker shading at the  
sides, labium & palpi white. Jaws black  
Body as before with greenish tinge, pink

spots somewhat smaller. W. hd 3? mm  
W. ant. 5.4, max. 4.7  
Mentum concave, 4th seg  
lateral quad. space



III on white basal (recurrent) later, on J.  
 Hds. 45 length 2.3 July 27 No marks like 209A  
 short stiff dark setae (single, none seen) Low in  
 sides yellow papillae.

209

III codes on black oval, dorsal &  
 perfect elliptical, lateral semi-  
 elliptical, dorsal & lateral rows  
 of hexagonal elongated depression  
 a yellow line on each angle not  
 dorsal & lateral regions, faint at  
 its extremities. A yellowish shade  
 at apex of body. Length 2.7 mm  
 body smooth. Color yellowish green  
 July 17 as before. hexagonal depression  
 smooth, body minutely papillose. A  
 yellow line on each subdorsal ridge  
 between which in the center & down  
 is a small red spot, reaching sides  
 until July 24 as before, then red spot  
 on each has a little on the lines.

July 24? Spot bulges 5th lines, salmon  
 color centrally edged brown. A brown  
 spot at ant. edge but none. July 27 dorsal  
 patch larger, edge of yellow which contains  
 on 2d line edge of red in with the red and  
 25.5 mm of yellow spot on the sides

(July 1)

210

Linacoles on brick, July 13, 1890  
 Shape of 209 but of a more bluish  
 green & with no marks. Along  
 subdorsal angle and around  
 lateral margin at rows of tubercles  
 bearing short black spines, L. 2 mm  
 July 17 as before but tubercles and  
 spine rather larger (did it really molt  
 dead)

Do this 239

	209	calc	Hds	Calc
Stage I see BB484,	length 1.5 mm	1.5	—	mm. .24
" II		1.5-2.3		.34
" III " 209A, 209	" 2.6, 2.7 "	2.3-3.5	"	.48
" IV " 209A, 212	" 4.5	3.3-4.7	"	.69
" V " 209A, 212	" 5.7-6.5	4.7-6.1	"	.98
" VI " <sup>209A</sup> 212, 477	" 7.5-9.5	6.6-9.5	"	1.4

Lengths by calc. 1.5, 2.1, 3.1, 4.4, 6.3, 9 mm. 10  
 first stage no growth, the rest mean end of stage after  
 growth]

Hds. by calc. .25 .35 .5 .7 1.0 1.4



211

Egg one chestnut. Dutchess Co July 15, 1890.  
 Elliptical slightly flattened a little hollow  
 above color, minutely punctured.  
 White on upper & lower surfaces  
 brown in a broad band around the  
 vertical part, diams 2.3 & 2.1  
 interrupted by a white fleck at each  
 end of the longest diameter.  
 Another hatched Aug 3rd. Hd round, retractile  
 brownish red. Tapering & bases ant. pale. eyes &  
 jaws black. 20 mm. Head whitish. 3 rows of  
 tubercles 3rd, superior & inferior, (12) on 2 close  
 together in 2nd, single dorsal one on 12 for head  
 & 2 small in anal plate. Tubercles all white  
 except yellowish the anterior. Dorsal 2 bases for  
 top of antennae long from spine. Post on 2 & 3 in  
 diam. brown stripe & indistinct. 2nd & 3rd  
 thin & spinous. 2nd. black. Length 6 mm  
 on all legs.

Telson yellow, greenish

\* Body pinkish & laterals above  
 spines much as in 247 but not  
 showing a distinct ridge from above  
 though sharp below. Dorsals small  
 round, conical yellowish.

This must be *T. glauca*

April

212 B on everything Sept 9 90

4/3/91

like 212 but 212A but  
 (allied to 247) pale space in center patch  
 212A = B311

On maple Dutchess Co July 30, 1890  
 Hd greenish testaceous, labrum and  
 mouth brown, eyes black. Retractile  
 beneath a fleshy fold which in  
 time retreats under the body. Body  
 elliptical sides sloping slightly to a  
 slight subdorsal ridge. Bright  
 green, the dorsal largely covered by  
 a path of salmon color, bordered  
 with a crimson line and yellow  
 shade. It begins somewhat broadly  
 above the head, narrow at once to a  
 dorsal band, widens twice, the second  
 time passing down to the subventral  
 edge. The body then narrows twice  
 and tapers to a point at the anal  
 extremity. Body very minutely pap-  
 pillose, the elliptical depression  
 hardly deep at all, smooth, whitish  
 in the dorsal patch containing a  
 dorsal row of blackish spots  
 2. green (and not as in 247).



Sub A alternating  
 with stripes as in L. scabra  
 1 above & 1 below  
 at 3 above lateral ridge  
 (fund. cell) 212

now 1 present along  
 d-region now  
 large hollow & d  
 ridge, with 3  
 smaller ones

IV scodes on with hazel July 15,  
 Elliptical with slight d. bet. back &  
 sides & constructed a little just before  
 dent. anteriorly. Heavy and elliptical 25  
 depressions which are smooth, the  
 rest of the body minutely papillate  
 A large diamond shaped purple  
 brown patch on the back reddish  
 at its edges & bordered with yellow  
 this border extending as far as wing  
 and 1 part along the dorsal ridge  
 body translucent yellowish green  
 in the center, dorsal patch a  
 pale yellowish space containing two  
 depressed green spots. L. 4.5 mm

V July 21 As before but, 4 yellow spots  
 in a transverse row before patch which  
 broad yellow border extends just to  
 just ant. some way on s-d ridges.

6 1/2 mm VI July 22 Like 212A but  
 the patch is dark purple brown, the  
 crimson cell indistinct, and a d.

IV IV 209 A 500000  
 On brick Jeff Highland July 14 1895  
 Hd. 5± L. 2.6 mm Oval both ends rounded  
 the ant more obtuse than the post.  
 Dorsum creased, highest point i. bet.  
 before middle. Sd & lat ridge low,  
 not prominent, s-r ridge shorter than  
 lat. Ridge i. bet. smooth, not  
 scalloped at all or tuberculate,  
 the setae nearly obsolete. Body  
 covered densely with close set, ap-  
 pressed watery granules, these sides  
 forming polygonal granules but in  
 certain depressed areas they are  
 absent; these areas d. consist of a  
 single row of large ones alternating  
 with 2 rows of smaller ones, on each  
 side adjoining the ridge. The small  
 setae on the ridge are opposite the  
 small areas. On the lateral ones  
 the same arrangement but below  
 the large spaces above lat. line a  
 very small space occurs, alternating  
 with the large rows of spaces. Trans-  
 versules on lateral ridge papillate,  
 subdivided at tip in some cases  
 esp. post. Strig. space more coarsely  
 granular, a simple row of depressions  
 alternating with the spiracle, not  
 well defined and scarcely smooth.  
 D. large space out on seg. just 2 small  
 adduced ones. Body light green incl.  
 brownish, no marks except 4 pale  
 dots with hint of reddish on s-d  
 ridge on G-19



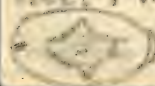
~~IV~~ IV  
On a brick Jeff. right hand July 14 1895  
Hd. 5: L. 2.6 in. Oval, both ends rounded  
the ant more obtuse than the post.  
Dorsum arched, highest point a little  
before middle. Sd 1 lat ridge low,  
not prominent. S-r ridge shorter than  
lat. Ridge 1 body smooth, not  
scalloped at all or tubercular,  
the setae nearly obsolete. Body  
covered densely with close set, ap-  
pressed watery granules, these gran-  
ules forming polygonal series but in  
certain depressed areas they are  
absent. These areas d. consist of a  
single row of large ones alternating  
with 2 rows of smaller ones, on each  
side adjoining the ridge. The small  
setae on the ridge are opposite the  
small areas. On the lateral area  
the same arrangement but below  
the large spaces above lat line a  
very small space occurs, alternating  
with the larger rows of spaces. Gran-  
ules on lateral ridge papillae,  
subdivided at tip in some cases  
esp. post. Sth. space more coarsely  
granular, a simple row of depression  
alternating with the spicula, not  
well defined and scarcely smooth.  
D. large space with on sq. just 2 small  
adduced ones. Body light green yel.  
fornish no markings except 4 pale  
dots with hint of reddish on a-d  
ridge on G-9



July 19 5d ridge, rounded, lateral undulate, smooth, smooth as before. Green, the pale yellow 5d dot more extensive 6-10, a wine red shading occupying d space 7-9 replacing the yellow in the dots and extending a little beyond it, forming a diffuse clouded faint square patch. Deep bright green, yellowish. Sculpture across the lateral ridges of appressed alien granules are a little broader, having more than one granule in line like angular appressed glass beads. Depressed areas finely granular. Setae obsolete, scarcely discernible except at the ends. S-V the interstices, depressed areas are rather well defined, comma shaped, being composed of a larger area with a smaller one below it, partly confluent. Branches none present. Abdomen above lat. ridge tail subquadrate, a little contracted at base. Antennae of 3 rounded.

Head 1mm - (catag) .85 w. .9 (on glass)  
Eat whole leaf. July 21. Patch pentagonal, minimised, pale centrally containing 3 grand unpaired spots; broadly indented with yellow which runs post. on 5d ridges but very total near reaching lateral ridge on d.  
(Eaten whole leaf July 22 - same - back P. thro.)

July 24 P.M. Depressed areas deep & well marked, small shagreened granules. Ridges coarsely densely interstices tuberculate, as before. Areas in d space smooth, the granulation of elevated area first down above. as first much smaller but just like lat. 1mm. Length 5.7mm (July 26) Red dots on 3. Patch purplish, widened red & yellow pale centered, yellow feet & 5d ridge



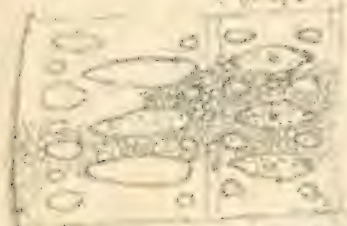


209A (cont)

instayed 2 July 26 - eating, length 5.7. Patch covers  
5-9. Dorsal hollow on 7 and intersp.  
ad-d on 6-7 7-8 whitish, d. on 7 with  
a green center, the space on 7 enclosed  
by these depression salines. This forms  
the  $\square$  pale center of d. patch. Patch  
begins on 5 ant, widening, margin indented,  
reaching down in an arm nearly to  
lateral ridge on 7, narrowing, indented  
ending rounded on 9 post. Color dull  
dark olivaceous with 6 bright red  
and a yellow border, the latter cont.  
along. 5 d ridge first to 7 ant and  
ant as a dot on 4 & on 3 the latter  
including a red patch. Impressed area  
finely & closely granular, lateral ridge  
appressed coarse granular. On the  
sides impressed spaces in a lateral  
large & sublateral sep. space, a next  
2d and sublateral intersp. rows  
as before, same sculpture. Below lat



ridge large reniform intersp. spaces  
the granules less defined. S-V folded  
margin smooth. Length 6.7 July 27  
July 28 6.5 x 3.8 mm can evident elongate  
at end somewhat 6.7 x 4.3 July 29 - went  
on back July 29 PM [D. imperfect spot just on  
sq. 1 a little in next sqs and a segmental  
mark Aug 3. S-V imperfect spot broken and  
confluent into an oblique reniform. 2nd sq.



u. 4.

95, 2 on lat ridge. 1 above  
1 below, fine short 1 seta  
next to ad-d small depression  
on S-d ridge is large depression  
very interesting. Joint 3 has ant.

a d depression, then 2 ad small? 13 has a single  
d. depression after the one 12-13, no other depressions  
Stp. fine contiguous warty granules. the small  
ones uniform, the large ones with glandular  
central rounded area, showing hyaline areas.  
Ridges coarse & dense warty granules, almost  
warty rather irregular. 7.5 x 4.5 colors not clear  
lat. 1.4 (measured white in S-d. young 8 x 5 Aug 5. complete)  
The d. space is narrow, the lateral wide.  
Colors pretty well assumed Aug 4 P.M.  
"just connected with that red head"



Code 99 on white oak Shellport 29  
Aug 2 1896. 1.0 x .6 Elliptical  
flesh whitish translucent in  
the leaf, shiny. Peta. faint  
in a strong side light visible  
as narrow, linear elongate  
hexagonal lines, slightly more  
opaque than shell.

Hatched Aug 8 9 gray Y black, limbs  
longer than shaft, alternate, as  
in fig. ② 5 not diff. colorless, shiny  
flesh green. Skin smooth.



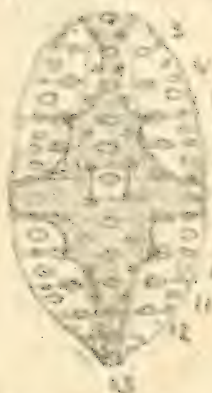
Angs eating 25

h. 10 " "

" " dead



Smooth, rounded but subquadrate,  
highest length 5 but gently angled  
elliptical sd ridge rounded over, d.



Dorsal view  
X 3

Space narrow, lateral  
broad, gently sloping  
as hinge is well  
flattened. Subapical  
ridge (iii) smooth  
prominent, exceeding  
SV ridge. SV Space  
small, hollowed,  
the SV ridge prom-

inent, nearly equalling lat. one.  
Body light green, yellowish the irregular  
spaces whitish with green  
clouded centers. Apical  
large vitreous d. which has  
bluish centers. The  
patch is bluish olivaceous



Ventral view

green with a narrow crimson edge  
ventral which is a diffuse light  
yellow border. The apical central  
spot on 7-8 is pale salmon except  
white & impressed spaces which it  
covers which are whitish. Broad  
began broad on 3, narrow quickly  
only covering & impressed spaces, under



Running out a spur into large lat  
 interseg. depressed space on 5-6,  
 widens further reaching edge of  
 lat. ridge on 8, narrows, with  
 a spur to lat space on 9-10  
 narrows further and runs to tail  
 just filling the local space.  
 Aug 5 ays; 5.5mm - 9.5 x 5.8 Aug 7 3mm high.  
 Later patch paler olivaceous, at crown  
 edge distinct. Aug 9, 9.5 x 6 x 2.7 stopped  
 eating. Eating again Aug 10 Pm. Went to spine  
 Aug 11 spinning

Another found on fire cherry at ant.  
 Described house which Aug 6, on 7, 5.8mm  
 patch not forming, but now continuous  
 from 3 - tail, but does not quite  
 reach edge of lateral ridge. There  
 are no points on 5-6 & 9-10 but  
 the margin is straight. Later  
 the posterior point ap-  
 pears but the ant.  
 widow is notched by  
 the lat. depression 5-6 instead of  
 going on point into it. Aug 10 7.5  
 Aug 12 8mm Aug 13 8.5 - (moving)



Another with normal mark except pale patch  
 not clear & spread in a diffuse O 5-9 to 5-6 ridge



Faint code all whitish no  
marks on white oak leaflet  
L. 9. July 19 1896

Shed while coming home, have  
whitish, depressed spines all  
present and shape as in  
I. pallida, tiny black setae  
along ridge. Skin clearly  
granular, subpuffballine S-V.  
Length 2.1 eating louse. Tail  
quadrate, faintest trace of  
yellowish patch in middle of  
back.



IV



Little Harmsia  
in grape vine



Red cross code B209

Culls

I	.76 - 1.1	.88 - 1.3
II	1.1 - 1.6	1.3 - 1.8
III	1.6 - 2.2	1.8 - 2.6
IV	2.2 - 3.2	2.6 - 3.7
V	3.2 - 4.5	3.7 - 5.3
VI	4.5 - 6.5	5.3 - 7.5
VII	6.5 - 9.3	7.5 - 10.7

On black oak July 29 2mm ~~from~~ 2.1  
(Stage III?) All whitish with slight pink  
green tint. Sp. spaces as in next &  
same shape or larger in proportion  
falcated ridges 1 granule wide. Setae  
visible but very small, blackish.



red +  
3.8  
to the  
end of IV?

(another 2.6  
to the

red +  
6.5 2.5 to the end of VI?

Spoken with  
Shirley  
Gardner



New calcs. July 1896  
allowing growth in I

.78-1.1 I 484 209B

1.1-1.6 II 209B ✓

1.6-2.3 III 209B

2.3-3.3 IV 209A 2.6  
209B 2.7

3.3-4.7 V 209A —

4.7-6.7 VI 209A 5.7  
212 6.5

6.7-7.5 VII 209A 7.5





*St*



9 eaten Head Aug 11

See 671

209C Carve out 685-


Two more *Frankeniana* Aug 13  
also with 7 back in  
white oak stage 5 at  
Specimen 7. Aug 9 1897

Length 1.1 mm to shed  
shed Aug 12. Black setae, spines; good granules  
more papillae & clef up. esp on ② but  
also on ①! ① beaded slightly, setae a  
little alternating. ② faintly greenish.



Code egg on back of black oak  
leaf, singly against small rib.  
Beekport July 31 1896

Elliptical, flat, transparent,  
a slight pearl luster in  
certain lights. No perceptible  
color, shiny. Rets. very strong,  
not seen with  $\frac{1}{2}$  inch, 1.0 x .6

Hatched Aug 8. 7-9 jumped & back  
just like fig. plain, @ 5 up a  
tuft. Spine tapering, swollen tipped  
shiny, ground glass white but rather  
too clean for ground glass, smooth  
elliptical, tapering behind   
but on will cherry



Sub A alternaty  
 with three as in L. scabra  
 (1 above s-d ridge, 2 below  
 it, 3 above lateral margin  
 (fund-211) 212

now 1 ph. s. d. along  
 rd - region now  
 large below s-d  
 ridge, with 3  
 ambler rows.

Color of body as all

IV Parasoles on with hazel July 15, 8/8  
 Elliptical with slight  $\frac{1}{2}$  bit back &  
 sides & constructed a little just before  
 post. extremity. Many sub-elliptical  
 depressions which are smooth, the  
 rest of the body minutely papillose.  
 A large diamond shape purple  
 brown patch on the back, reddish  
 at its edges & bordered with yellow  
 this border extending a little way  
 ant. & post. along the s-d dorsal ridges.  
 Body translucent yellowish green.  
 In the center of dorsal patch a  
 pale yellowish space containing two  
 depressed green spots. L. 4.5 mm

July 21 As before but, 4 yellow spots  
 in a transverse row before patch which  
 broad yellow border extends post. but  
 not ant. some way on s-d ridges.  
 2 6 1/2 mm VI July 29 Like 212A but

the patch is dark purple brown, the  
 crimson edge indistinct, and a c



